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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,233	06/09/2006	Yulin Hao	033792R005	2857
441	7590	04/30/2009		
SMITH, GAMBRELL & RUSSELL 1130 CONNECTICUT AVENUE, N.W., SUITE 1130 WASHINGTON, DC 20036			EXAMINER	
			WYSZOMIERSKI, GEORGE P	
ART UNIT		PAPER NUMBER		
1793				
MAIL DATE		DELIVERY MODE		
04/30/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/582,233	<b>Applicant(s)</b> HAO ET AL.
	<b>Examiner</b> George P. Wyszomierski	<b>Art Unit</b> 1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 15 January 2009.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 6-13 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-5 and 14-28 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-166/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

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1. The Amendment filed January 15, 2009 has been entered. Claims 1-28 are pending, with claims 6-13 withdrawn from consideration as directed to a non-elected invention.

*Claim Interpretation*

2. Independent claim 1 states that the inventive alloy is a ternary, quaternary, or quinary alloy of certain elements. However, a number of dependent claims state that the alloy further comprises at least one interstitial element. Therefore, the examiner's position is that the interstitial elements should not be counted in determining the ternary, quaternary or quinary nature of a given alloy.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 27 and 28 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Furuta et al. (PG Pub.No. 2003/0102062). At least sample no. 7 in paragraph [0142] of Furuta comprises the elements as claimed in the amounts indicated.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 2, 5, 16, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furuta et al.

Furuta discloses titanium alloys that include Group IVa and Va elements such as niobium and zirconium, and which further include an interstitial element such as oxygen in an amount stated in claims 5, 16, 21 and 22. Furuta does not disclose any specific example that completely meets the compositional requirements of claims 1 or 22. However, the overlap in composition between the alloys of the prior art and those as claimed creates a prima facie case of obviousness of the claimed invention, because the prior art alloys are indicated as possessing utility over the entire range of compositions disclosed therein. Thus, no patentable distinction is seen between the alloys as claimed and those of Furuta et al.

7. Claims 1-5 and 14-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. (U.S. Patent 6,607,693), or over Hwang et al. (PG Pub.No. 2005/0072496).

Saito and Hwang both disclose titanium alloys containing niobium, zirconium, and oxygen, and which may further include tin or aluminum, all in amount which overlap or closely approximate the ranges set forth in the instant claims. While no specific example of Saito or Hwang fully meets the requirements of claims 1, 22, or 27, the examiner's position is that:

a) To the extent that the compositions as claimed overlap those disclosed in the prior art, the examiner's position is that such an overlap creates a prima facie case of obviousness of the

claimed invention, because the prior art compositions are described as possessing utility over the entire disclosed ranges in Saito and Hwang.

b) With respect to the perfunctory gap between the claimed "30 wt % > niobium" and the minimum 30 % of a Va Group element (e.g. Niobium) required by Hwang, the examiner submits that such a distinction would not render the claimed compositions patentable, because one of ordinary skill in the art would expect the properties of such closely approximating compositions to be the same or nearly so; see *Titanium Metals v. Banner* (227 USPQ 773, Fed.Cir. 1985).

Thus, no patentable distinction is seen between the alloys described by Saito et al. or Hwang et al. and the presently claimed invention.

8. In the response filed January 15, 2009, Applicant alleges that the amendments to the instant claims serve to patentably distinguish the claimed invention from the prior art. With respect to the Furuta, Saito, and Hwang references, the examiner respectfully disagrees, for reasons as stated in the new grounds of rejection under 35 USC 103 supra. The rejection based on the Ahmed et al. reference has been withdrawn, as the other applied references are clearly more relevant to the claimed invention.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. All patent application related correspondence transmitted by facsimile must be directed to the central facsimile number, (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/George Wyszomierski/  
Primary Examiner  
Art Unit 1793

GPW  
April 28, 2009